

## **Appendix B**

### **Data Qualifier Flag Definitions for Data Users**

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### Organic Analysis

The following definitions are intended to assist the data user by providing an explanation of the qualifiers (flags) appended to organic analysis results by the laboratory and/or data reviewer. The purpose is to facilitate appropriate data use, consistent with the project objectives.

- U-      The analyte was analyzed for and is considered not present above the level of the numerical value listed to the left of the flag on the laboratory's data reporting form. The numerical value indicates that approximate concentration necessary to detect the analyte in this sample.
- J-      The analyte was analyzed for and was positively identified, but the associated numerical value may not be consistent with the amount actually present in the environmental sample. The data should be seriously considered for decision-making and are usable for many purposes.
- UJ-     A combination of the "U" and the "J" qualifier. The analyte was analyzed for and was not present above the level of the associated value. The associated numerical value may not accurately or precisely represent the concentration necessary to detect the analyte in this sample.
- R-      The quality control associated with the analysis or analyte indicates severe uncertainty with the reported result. The analyte was analyzed for, but the presence or absence of the analyte has not been verified.
- N-      The analysis indicates that an analyte is present, and there are strong indications that the identity is correct. Confirmation of the analyte requires further analysis.
- NJ-     A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.
- D-      This flag identifies all compounds identified in an analysis at the secondary dilution factor. If a sample or extract is reanalyzed at a higher dilution factor, as in the "E" flag below, the "DL" suffix is appended to the sample, and all concentration values reported on that Form I are flagged with the "D" flag.
- E-      This flag identifies compounds whose concentrations exceed the calibration range of the gas chromatograph/mass spectrometry (GC/MS) instrument for that specific analysis. This flag will not apply to pesticides/polychlorinated biphenyls (PCBs) analyzed by GC/Electron Capture Detector (ECD) methods.
- B-      This flag is used when the analyte is found in the associated blank as well as in the sample. It indicates possible/probable blank contamination and warns the data user to take appropriate action. This flag will be used positively identified TCL compound. A tentatively identified compound (TIC) found in both the sample and associated blank will receive an "R" flag.

- C- This flag applies to pesticide results where the identification has been confirmed by GC/MS. Single component pesticides  $\geq 10$  ng/ $\mu$ l in the final extract will be confirmed by GC/MS.
- A- This flag indicates that a TIC is a suspected aldol-condensation product.
- X- Other specific flags may be required for the laboratory to properly define the results. If used, they should be fully described and such description attached to the Sample Data Summary Package and the Case Narrative. Laboratories typically begin by using "X." If more than one flag is required, laboratories may use "Y" and "Z," as needed. If more than five qualifiers are required for a sample result, laboratories may use the "X" flag to combine several flags, as needed. For instance, the "X" flag might combine with "A," "B," and "D" flags for some sample.

Descriptions of laboratory flags for inorganic analysis are as follows:

- U- SDG Type-1A, 1B, 1C, or 2—The analyte was analyzed for but was not detected at or above the instrument detection limit or the method detection unit depending on the type of sample delivery group.
- E- The reported value is estimated because of the presence of interference. An explanatory note should be included under Comments on the Cover Page (if the problem applies to all samples) or on the specific I&MCA analysis data sheet (if it is an isolated problem).
- M SDG Type-1A only—The graphite furnace atomic absorption spectroscopy (GFAA) duplicate injection precision was not met.
- N- Spiked sample recovery was not within the control limits.
- S- The reported value was determined by the method of standard additions (MSA).

#### **SDG Type-1A, 1B, or 1C**

- PM- ICP when Microwave Digestion is used
- AM- FAA when Microwave Digestion is used
- FM- GFAA when Microwave Digestion is used
- NR- the analyte is not required to be analyzed

#### **SDG Type-1A**

- CA- midi-distillation spectrophotometric (cyanide)
- AS- semi-automated spectrophotometric (cyanide)
- C- manual spectrophotometric (cyanide)
- T- titrimetric (cyanide)

### **SDG Type-3**

Under the "METHOD" field, the applicable governing body acronym and method number (such as USEPA 9035, ASTM D 3867-90, and StdM 4500-C1B) should be entered.

### **Radionuclide Analysis**

The following are definitions of the data qualifier flags applied to radionuclide analysis results.

- U- Analysis was performed and the result is less than two times the associated 1-sigma uncertainty for the analysis. The analyte of interest is not considered to be present at the 95% confidence level.
- J- Analysis was performed and a true positive result was obtained (result is greater than two times the associated uncertainty), but the result is considered to be an estimated quantity due to analytical and/or quality control problems. The analyte of interest is considered to be present at the 95% confidence level, but the result may be inaccurate or imprecise.
- UJ- The analysis result obtained is less than two times the associated 1-sigma uncertainty for the analysis and is considered to be an estimate quantity due to analytical and/or quality control problems. Analyte of interest may or may not be present at the 95% confidence level, but the result may be inaccurate or imprecise.
- R- The analyte of interest may or may not be present at the 95% confidence level and the result is known to be inaccurate or imprecise.

